I have preferred to use the prepared silk on glass spools and kept in alcohol. The latter is poured off, and after the spools have thoroughly boiled in the wax they are replaced in the bottle as before except that they are kept dry; in this way it is more convenient to handle and less liable to contamination.

I have experimented with different proportions of wax and paraffin and think when combined in about equal parts the best result is obtained. If too much pariffin is used the thread fibre does not cohere sufficiently to prevent capillary attraction, and the thread is not so pliable nor does the first knot seem to hold so well in tying. If too great a proportion of wax is used the thread fiber retains too much wax and the thread is apparently made larger and troublesome in drawing through the eye of the needle; I think also that the wax alone is more liable to be affected either by chemical or physiological processes, than when it is combined with pariffin in considerable proportion.

The temperature of the mixture when boiling is about 350 degrees and I think it is safe to assume that any germ or spore that might escape such a temperature would be too weak to burrow out of the wax and paraffin after they had been incorporated with the thread fiber.

I use the twisted thread in preference to braided, for when dipped in hot water before threading a needle, and by rolling it between the finger and thumb the thread is made quite small and can be twisted to a fine point; it is then very easily threaded into a much finer needle than could otherwise be used; this advantage alone is worth the trouble of waxing to the general practitioner, who has to do much emergency work and is called upon to use sutures under all kinds of unfavorable surroundings; the fine needle rendering the operation decidedly less difficult to perform besides being less painful and making smaller stitch holes, all of which are deserving of consideration by the surgeon and appreciated by the patient.

Prepared in this way I believe silk to be superior to any other material we possess where a non-absorbable suture can be used. When they are buried I believe they are less likely to cause trouble than plan silk or poorly prepared catgut, and in the cases where I have so used them there has been no after trouble. It has most all of the advantages of silver wire, horsehair and silkworm gut with none of their disadvantages.

Waxed silk is especially valuable for use in closing wounds about the face and hands; it is often impossible entirely to prevent infection in such injuries and I have frequently removed the sutures from an infected wound and found the stitch holes not infected while the wound is bathed with pus, seeming to prove both the absence of capillarity and an inhibitory influence on germ development.

Another advantage over plain silk is that blood, pus, secretions or dressings do not easily adhere to the waxed thread and so you are not liable to tear out your sutures when you take off the dressings.

To sum up then, the advantages claimed for waxed silk are:

Its sterility and the ease of keeping it sterile.

The absence of capillary attraction.

It does not irritate the tissues.

Does not adhere to the tissues, dressings or secretions.

It is easily removed.

Easily prepared.

Convenient to carry, easy to thread and in tying it the knot does not slip so easily as plain silk.

Discussion.

Dr. Teass: This proposition of suturing to me has become a very simple matter. I can remember a few years back in doing surgery when I carried a grip around with me with every material necessary in it. As my experience progressed this has become much more simplified and to-day is a very simple matter. I simply take a few tubes of sterile catgut of various sizes and silkworm gut. I put them in a wide-mouthed bottle and fill it with tincture of iodine. I take it out and place it in hot lysol. The proposition of sterilizing silk is something I never attempt. I do not use the silk gut at all even as a buried suture. I have resorted altogether to catgut within the past few years. I can remember when I first attempted suturing with silk I had many cases of stitch hole abscesses but within the last few years I cannot recall a single case of stitch hole abscess even in those cases where there had been no previous preparation at all and I have had many scalp wounds and dirty wounds which are hurriedly cleaned out and a suture put in with very clean results.

SIMPLIFICATION OF THE TECHNIC OF THE SERUM DIAGNOSIS OF SYPHILIS.

By J. N. FORCE, M. D., Berkeley.

In the article which he has devoted in this journal to the technic of the different procedures employed for the serum diagnosis of syphilis, M. Fornet concludes that (the execution of the method of Wassermann presenting some difficulties), he desired that the examinations be practiced with all the guaranties of exactness by State laboratories, which would centralize them, and would put their results freely at the disposal of practitioners. It cannot be denied that the method of Wassermann is neither easy to learn or to apply, and its author himself declared, recently, before the Medical Society of Berlin that its technic was complicated. For these reasons, since the publication of the work of Wassermann, I have sought for, and finally found a method simpler and more rational. I explained its general principles some months ago, and its practical value has now been verified by numerous applications made by me and other workers. It is the technic of this method that I am going to explain for the first time, with all the necessary details, so that, simplified, as I have made it, the serum diagnosis of syphilis can now be carried out without any difficulty by all physicians desirous of using the latest gifts of science.

In order to practice serum diagnosis of syphilis, one needs fresh guinea pig serum, a five per cent suspension of sheep corpuscles, normal human serum, extract of an organ, and serum of the patient.

Fresh guinea pig serum. It is obtained by bleeding from the carotid or femoral. If only a small quantity is needed it can be taken from the heart with a small exploring needle, without killing the animal. Detach the clot which forms in the vessel and draw off the serum with a pipette. This serum

(Translated from La Semaine Medicale.)

does not keep more than a day, unless frozen. In this case liquefy, at the moment of using, with a little tepid water. This can only be done once. In using the serum dilute to 1-10 with normal salt solution.

Five per cent suspension of sheep corpuscles. Procure some fresh sheep's blood that is received in a bottle containing iron filings, to prevent clotting, and shaken for ten minutes. At the laboratory decant through a sieve into the tube of a centrifuge, note the height; then centrifuge. Draw off the serum with a pipette and refill to the mark with normal salt solution, shake and again centrifuge; repeat twice and finally fill with normal salt solution to the mark. This diluted to five per cent can be kept on ice several days.

Normal human serum. This can be obtained by puncture of a vein. I prefer placental blood. Heat in a water bath for a half hour at a temperature of 51 to 56 degrees to destroy the complement.

Organic extract. Rub together in a mortar 100 c. c. of alcohol at 96 degrees and 10 gms. of the liver of a syphilitic fetus (I have employed with equal success extract of the heart of a guinea pig prepared in the same way); this mixture is left all night in the shaking machine, and then centrifuged. The decanted liquid remains clear and serves as a mother solution which can be kept on ice. To prepare for the reaction, place in a series of test tubes 0.25, 0.15, 0.10, 0.05, 0.025, 0.015 c. c. of the mother solution, and normal salt solution to make 1 c. c. in each tube. Control with a tube containing 1 c. c. of normal salt solution. To each of these seven tubes add 1 c. c. of 1-10 guinea pig serum, then 0.2 c. c. of inactive human serum. Place the tubes in the incubator at 37 degrees for thirty minutes, and at the end of that time add to each tube 1 c. c. of the suspension of sheep corpuscles and replace in the incubator for two hours. As each tube contains 1 c. c. it is only necessary to see in which tubes the contents are dissolved, to know the correct dilution of the organic extract: 1-4, 1-7, 1-10, 1-20, 1-40, 1-70. The liquid ought to remain clear in the control tube; if not the guinea pig serum is not fresh, or the human serum contains fats. Let us suppose that in the preceding experiment the contents of the three first tubes were not dissolved. The necessary dilution for serum diagnosis would be 1 c. c. of 1-20. The test should be then repeated with 1-10, 1-20, 1-30, and the serums of several subjects healthy and syphilitic to be certain of the correct dilution.

Serum of the patient. This is obtained by bleeding or with a hollow needle from the forearm, after constricting the upper arm with a band. Separate the clot, centrifuge, draw off the serum, and inactivate.

The reagents being prepared we now take four test tubes and fill in the following manner:

1. Tube principal.

Serum of patient	0.2 c. c.
Organic extract (standard)	1.0
Serum of guinea pig	1.0

2. Tube for control.

Serum of patient	0.2 c. c.
Normal salt solution	1.0
Serum of guinea pig	1.0

3. Tube principal for comparison.

Normal serum	0.2 c. c.
Organic extract (standard)	1.0
Serum of guinea pig	1.0

4. Tube to control comparison.

Normal serum	0.2 c. c.
Normal salt solution	1.0
Serum of guinea pig	1.0

After shaking the four tubes place for a half hour in the incubator at 37 degrees, then add 1 c. c. of the suspension of sheep corpuscles to each tube, and observe the course of the reaction in the incubator. Generally the contents of tubes 2 and 4 dissolve within thirty minutes and the liquid becomes clear. Hemolysis appears soon in tube 3. When the blood of tube 1 dissolves almost in the same time as that of tube 3 the patient is healthy. If the contents of tube 1 do not dissolve, the patient is syphilitic. Some deviations from the normal course of the reaction may occur: (1) The contents of tube 1 may dissolve imperfectly. In this case repeat with tubes 1 and 2 with 0.15, 0.10 and 0.05 c. c. of the patient's serum seeking a combination so that the contents of tube 1 remain intact, and those of tube 2 dissolve entirely. (2) If this does not occur add to tubes 1 and 2, 0.1 to 0.2 c. c. of normal human serum. This is done at the same time that sheep corpuscles are added, but it can be done a quarter or a half hour after, and so it can be added when one is sure that the contents of tube 2 do not dissolve. In general we begin first with the addition of 0.1 c. c. of normal serum whose dissolving power is proved by the hemolysis established in tubes 3 and 4; if the dissolution is not perfect, try again with 0.2 c. c.. (3) The addition of 0.2 c. c. of normal human serum, and even of a larger amount is necessary when examining the serum of infants less than six months old.

In conclusion: Tubes 3 and 4 serve to prove, (a) that the presence of organic extract does not prevent the dissolution of corpuscles in the mixture; (b) that the serum of the guinea pig is not altered. Tube 2 serves to show, on one hand that the serum of the patient does not contain substances preventing the dissolution of sheep corpuscles and, on the other hand, that it contains sensitizing substances. It is essential to find for tube 2 the dose of normal human serum exactly dissolving; this ought always to be the same as that of tube 1.

(Dr. J. Bauer, Asst. in the pediatric clinic of the Academy of Medical Practice in Dusseldorf.)

COUNTY SOCIETIES

BUTTE COUNTY.

The regular monthly meeting of Butte County Medical Society met Tuesday evening, January 12, at the offices of Dr. P. E. Bullington; following members present: Drs. N. T. Enloe, P. F. Bullington, H. Morel, M. P. Stansbury, Ella F. Gatchell of Chico, and Dr. L. L. Thompson of Gridley.

Drs. H. Morel, Hal. M. Parker of Chico, and S. Iglick and Samuel A. Goldman of Orland, were admitted to membership.

A paper on pneumonia by Dr. P. F. Bullington was read by Dr. Thompson; the discussion was opened by Dr. M. Stansbury and participated in by other doctors.

Voted that the Society petition the Governor to reappoint Dr. N. K. Foster as Secretary of State Board of Health, and Dr. M. Stansbury was appointed a committee to obtain signatures to the petition.

ELLA F. GATCHELL, Secretary.

SACRAMENTO COUNTY.

The regular monthly meeting of the Sacramento Society was held on the evening of December 15, 1908, Dr. E. C. Turner being the host. Dr. D. A. Kellogg of Sacramento was unanimously elected a member. The society instructed its Secretary to write Dr. Grant Selfridge of San Francisco to attend its next meeting. The report of the Hospital Investigation Committee was received, and at a special meeting held one week later, was adopted. This report advised the employment of a pharmacist at the County Hospital, accommodations for more nurses and better accommodations and food for tubercular patients and a change from the present system to that of a resident superintendent with a visiting staff. A paper on "Typhoid Fever" was